I N D O N E S I A

Year 2, Issue 5
May 2000

CRISIS BULLETIN

Vitamin A Capsules: Red and Blue

What's the difference?

In 1999, children 6-11 months of age were added as a new target group for routine vitamin A supplementation in Indonesia. These younger children should receive 100,000 IU of vitamin A, half the dosage recommended for older children. The reason for expanding the target group is to promote good nutritional status and prevent morbidity and mortality among children at an earlier age. To meet this need, efforts are being made to distribute 100,000 IU (blue-colored) capsules around the country.

At the end of 1999, an updated set of national policy guidelines for the acceleration of vitamin A supplementation program activities was published in Indonesia. That publication provides a concise reference for policy makers, program managers and health workers across the country about the consequences of vitamin A deficiency, why acceleration programs should be conducted, who the target groups are, how the approach would be carried out, and what dosages of vitamin A should be administered.

Currently, two different types of vitamin A capsules are being used for routine supplementation activities in Indonesia: red 200,000 IU capsules and blue 100,000 IU capsules. However, some policy makers, program managers and health service providers may still have questions on why the 100,000 IU (blue) vitamin A capsules are now being distributed and how they should be used.

This bulletin (published in English and Bahasa Indonesia) provides a brief outline of the vitamin A supplementation program activities for preschool children and describes the different types and sources of vitamin A capsules that have been used to support these programs from the 1970s to the present.

History of vitamin A supplementation for preschool children in Indonesia

In the early 1970s, a pilot project to distribute 200,000 IU vitamin A capsules to approximately 100,000 children aged 1-5 years was launched in 20 districts of Java as a collaborative effort by the Government of Indonesia (GOI) and Helen Keller International (HKI). That project represents one of the earliest phases of widespread community-based supplementation activities in Indonesia. Based on the success of that initial pilot program, the GOI decided to expand vitamin A distribution activities to reach over 7 million children. At that time, the United Nations Children's Fund (UNICEF) distributed 200,000 IU vitamin A capsules to support the program activities. The early vitamin A capsules were orange in color because the vitamin A-containing oil was encased in a clear gelatin capsule.

In the past 30 years, numerous changes have taken place in both the nationwide vitamin A supplementation program and the system for vitamin A capsule production and procurement. The scope

Helen Keller International is a division of Helen Keller Worldwide
The Indonesia Crisis Bulletin *is published by Helen Keller International/Indonesia*

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and intensity of program activities have alternatively expanded and contracted in response to the nutritional situation in the country, new target groups for vitamin A supplementation have been added, the national pharmaceutical industry in Indonesia began to produce capsules for use in the routine vitamin A supplementation program, and in the mid-1990s, the GOI became one of the first governments in the world to fully assume the costs of procuring capsules for a national vitamin A supplementation program for preschool children.

Vitamin A capsule production and procurement

Since the 1970s, several changes have taken place in the system used to procure vitamin A capsules needed for the routine supplementation program. Up until the mid-1990s, the capsules were procured primarily with the financial and logistical support of UNICEF. Initially, children 1-5 years of age were the only target group for routine supplementation and the 200,000 IU vitamin A capsules were the only type of capsules required.

With the help of UNICEF, similar program activities were launched in the 1980s in other countries where vitamin A deficiency threatened the health and survival of preschool children. At the time, research findings were indicating that children even younger than 1 year of age would also benefit from routine vitamin A supplementation and children 6-11 months of age were officially included as a target group for supplementation in some countries. The recommended dosage for this younger age group is 100,000 IU of vitamin A, half the dosage recommended for older children. To meet the need for vitamin A capsules for these younger children, pharmaceutical companies began producing capsules containing 100,000 IU of vitamin A.

In the 1990s, pharmaceutical companies around the world began to adopt a standardized color-coding scheme for the production of vitamin A capsules containing different dosages of vitamin A. In many countries, the internal contents of vitamin A capsules can now be identified by their external color as follows: 200,000 IU (red) and 100,000 IU (blue).

The pharmaceutical industry in Indonesia used the same color-coding scheme when they began producing vitamin A capsules for the national supplementation program in the 1990s. As a result, supply managers and health service providers in the district health offices, *Puskesmas* (community health centers) and *Posyandu* (village health posts) can clearly distinguish between the stocks of 100,000 IU capsules intended for children 6-11 months old and the stocks of 200,000 IU capsules for children 1-5 years old.

Figure 1. Promotional brochure about the new target group of children aged 6-11 months and the 100,000 IU blue vitamin A capsules

Economic crisis in Indonesia

The Asian economic crisis that began in 1997 caused a decline in household purchasing power and decreased families' ability to buy relatively expensive foods such as eggs and meat – foods that are particularly rich in vitamin A. Data collected by the GOI/HKI Nutrition Surveillance System (NSS) documented an increase in the prevalence of night blindness and concerns began to rise about the re-emergence of vitamin A deficiency in some areas of the country (see Crisis Bulletin Yr 1, Iss 2, Oct 1998). Renewed efforts were called for to support vitamin A supplementation activities for children at highest risk – including children living in the urban slum areas where vitamin A capsule coverage rates were low and children 6-11 months old.

Introduction and promotion of a new target group: 6-11 month old children

In early 1999, following the international guidelines, children 6-11 months old were added as a new target group for routine vitamin A supplementation. This was done to minimize the impact of the economic crisis on the nutritional status of this age group. Stocks of the 100,000 IU (blue) vitamin A capsules required to reach this new target group for a one-year period were procured through UNICEF and distributed by the GOI.

In order to promote this new target group to the public, a special media campaign was launched in early 2000. The campaign included TV and radio broadcasts, banners and signboards for *Puskesmas* and *Posyandu* facilities, and technical flyers about the new target group that were distributed to the district health offices (see Figure 1). According to the estimates gathered from the district health offices immediately following the February 2000 distribution month, the stocks of 100,000 IU capsules on hand would be insufficient to supply the *Puskesmas* and *Posyandu* facilities with their needs for the August 2000 vitamin A distribution month.

The Vitamin A Working Group, formed at the end of 1999 and comprised of members from the Ministry of Health (MOH), the national pharmaceutical industry, UNICEF, HKI and other institutions, is currently working to ensure that adequate supplies of all vitamin A capsules required for the August 2000 distribution month are being procured. However, institutionalizing the procedures, required to procure the new 100,000 IU vitamin A capsules on a routine basis, may take the longer than initially anticipated. One important reason for this delay is the current process of decentralization, which will have an effect on how all vitamin A capsules are procured and distributed. The change in procedure, unfamiliarity among provincial/district health workers with the new blue capsule and the large program coverage area also contribute to the delay.

Even though the red and blue capsules were specifically designed for use among different target groups, the only difference between the capsules is the dosage of vitamin A. One solution to a temporary shortage in 100,000 IU capsules is to train local health care workers to dose children aged 6-11 months with half the contents of a 200,000 IU (red) capsule. This approach is routinely used in countries where the lower dose 100,000 IU capsules have never been available. In 1995, the MOH established a precedent for using this approach in Indonesia for the treatment of xerophthalmia and measles in Bengkulu province, when it issued guidelines describing the half-dosing method. Although providing adequate stocks of the 100,000 IU capsule was what was originally planned to meet the program needs for the new target group of younger children, this may not be possible in all locations. The objective in starting program activities for the new target group of younger children is to help protect their health. If an alternative strategy for dealing with an inadequate supply of 100,000 IU capsules is developed, then children 6-11 months old who come to the *Puskesmas* and *Posyandu* health facilities during the August 2000 campaign will not leave without receiving an appropriate dose of vitamin A.

Figure 2. Alternative scenarios for vitamin A capsule supply in August 2000

Type of vitamin A capsules	Supply at Puskesmas/ Posyandu facility	Action in August 2000
Red capsules (200,000 IU)	Adequate	Dose children aged 1-5 yrs with a red capsule
Blue capsules (100,000 IU)	Adequate	Dose children aged 6-11 months with a blue capsule
	Inadequate	Dose children aged 6-11 months using half the drops in a red capsule

Recommendations

- Prior to the August 2000 distribution campaign, a coordinated effort should be made to ensure that adequate supplies of both red and blue capsules reach the field level.
- The potential for a shortage of blue capsules should be considered and a contingency plan developed.
- The functions of the existing procurement system should be determined and the means by which a decentralized system can be strengthened and streamlined to avoid shortages in the future should be explored.
- The means by which the the existing distribution system can be strengthened should be explored.
- Along with an emphasis on adequate procurement and distribution, more intensive promotional efforts should be made to educate all levels of the governmental distribution system and local communities about the new target group (children aged 6-11 months).

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Projects carried out by HKI-Indonesia in collaboration with the above organizations are funded by the United States Agency for International Development (USAID).

This publication was made possible through support by the Office of Population, Health and Nutrition, USAID/Indonesia Mission, under the terms of Award No. 497-A-00-99-00033-00. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of the US Agency for International Development.